



# MARL



Magazine by MARL

For Maltese and Gozitan

Radio Amateurs

Number 10

October 2006

# Smoking is prohibited



## at the Centre

### From the Editor

Friends,

I welcome you again for another edition of this magazine for October 2006, which is the 10<sup>th</sup> edition in this series.

I hope that you will find something interesting for you in every issue.

It's good to know that as a Committee we had a little work due to an allocation that was going to be made on a frequency of 10 Ghz to the commercial station Super1 through One Productions.

What happened was that while previously they had links from their studio on certain frequencies that were taken for cellular telephony, they had to be given other frequencies.

From the Malta Communications Authority side, they were going to be given frequencies on 10 Ghz that were going to cause mutual interference between the station and radio amateurs.

When the Authority published the notice and we got to know about it from Stanley, 9H1LO, we as a committee objected immediately as well as other objections that were made by individual radio amateurs.

On the other hand, Mansweto, 9H1GB and myself talked to Dr Michael Vella Haber, who is the Managing Director of One Productions about this problem.

Dr Vella Haber understood the position and explained to us that they were going to have to enter into additional expenses because they had to change their previous equipment due to a decision by the Authority to change the frequencies and that they were ready to work with us so that if possible they will be granted other frequencies because they did not want to interfere with anyone.

After communications with the Communications Authority by Dr Vella Haber and the Committee, it was to everyone's satisfaction that One Productions were given frequencies outside 10 to 10.5 Ghz.

Here we would like to thank Dr Vella Haber, Mansweto, 9H1GB, the Committee as well as Mr Adrian Galea from the Communications Authority that things were solved to everyone's satisfaction.

This was another example of the Committee's work and the cooperation of all those interested that led to a solution that was satisfactory for everyone.

This was possible because we have shown our unity and that these frequencies are used by Maltese and Gozitan radio amateurs for different modes of operation.

That is why we always insist that you use all our frequencies because as always happens, what you don't use you lose.

### Lawrence 9H1AV/9H9MHR

#### Warning

**We want to warn those who may be misguided about who can operate transmission apparatus on our frequencies.**

**No radio amateur can give his apparatus to another person, whether a Maltese or a German person who is not licensed.**

**More so no one can say on the air that he is giving his apparatus to another**

**person who is not licensed and is authorising her to use his callsign/1.**

**Whoever does so not only shows that he does not know the regulations, not only would he be doing something illegal because he has absolutely no right and no authority to do so, but would be expecting the revocation of his license and the confiscation of his equipment.**

**Apart from this, no one can talk to another person who is not licensed and to whom someone had passed on his equipment to her.**

**We hope that this warning is heeded so that no one will be sorry.**

**Some licence “B” radio amateurs asked us about the arrangements for “B” licensees to operate on HF.**

**We have already written about this, but it is good to remind them so that no one will make a mistake and suffer the consequences.**

**All those who have a “B” license can work on HF but cannot use Morse code if he has not passed the Morse code examination and can apply for an “A” license.**

**HE MUST CONTINUE TO USE HIS CALLSIGN THAT STARTS WITH THE PREFIX 9H5 UNLESS HE SITS FOR AND PASS THE MORSE CODE EXAMINATION.**

**We make it absolutely clear that if he does not have an “A” license he cannot simply change his prefix from 9H1 to 9H5 because if he does so he would be ILLEGAL and would be subject to all measures against him according to law.**

**Be careful so that you will enjoy your license.**

**Lawrence 9H1AV/9H9MHR**

## **News**

### **136 khz**

As we have told you many times, this frequency has been granted to radio amateurs in a number of countries to experiment on it.

Regarding frequencies between 135.7 – 137.8 khz, IARU is seeking a world wide allocation for radio amateurs below 200 khz.

The considerations are that this frequency has different characteristics from those of higher frequencies, and there is considerable interest on LF propagation and experimentation by individuals.

Presently there is no global or regional allocation to the radio amateur service on low frequencies.

The “Responsible Working Party” for the conduct of ITU-R studies related to agenda item 1.15 is WP 8A.

Such studies are expected to include the potential interaction between the Amateur Service and incumbent radiocommunication services.

Co-ordinated efforts by IARU Region 1 led to the adoption in May 1997 by the CEPT European Radiocommunications Committee of Recommendation 62-01.

This recommendation states that the band 135.7 – 137.8 kHz may be used with a maximum e.r.p. of 1 watt on a secondary basis by the Amateur Service in CEPT countries.”

As we have shown you previously, there are a number of countries that have authorised their radio amateurs to use this frequency, but here in Malta we are still waiting.

As we have also previously told you, due to the losses of practical antennas that we can use, to have 1-watt e.r.p. you need a transmitter with a power of more than 1 kw.

We hope that we will not have to wait for years before we are given the frequencies between 135.7 – 137.8 khz.

### **500khz**

Today we have another bit of news which is more satisfactory about 500 khz.

This is that 23 American Radio amateurs that were given permits to work on this frequency last year can now do so.

In fact, they were authorised to use it and started working on it on 13 September<sup>1</sup> and have already made contacts of about 300 miles distance on CW<sup>2</sup>.

As you know, we have already tried to be allocated this frequency in Malta, but we remind you that the answer was that if the ITU allocates this frequency to radio amateurs, the Maltese authorities will consider an allocation favourably.

Now its good to tell you that IARU is seeking a secondary allocation for the amateur service on this frequency.

The considerations are that the frequency 500 kHz has been allocated to the maritime mobile service for distress and safety signals since the beginning of ITU spectrum allocations.

Technological advances such as the Global Maritime Distress and Safety System (GMDSS) have rendered the 500 kHz channel obsolete.

Thus it is timely to consider an allocation to the amateur service.

This part of the spectrum is interesting to radio amateurs because of its unique propagation properties, which include both ground wave and sky wave modes.

Its properties are sufficiently different from those of LF and the 160-meter band.

The band of interest is 495-505 kHz and/or adjacent spectrum in the bands 415-495 kHz and 505-525 kHz.

### **Lawrence 9H1AV/9H9MHR**

### **70 Mhz**

About the news that we had earlier on about this frequency, Hans Blondeel Timmerman PA7BT with whom I've exchanged correspondence informed me that they do not have an allocation on this frequency in the Netherlands.

On the other hand, many contacts are being made between stations using two different frequencies, that is, those authorised are using 70 Mhz while others use 50 Mhz.

As you know we are doing all we can to be given the allocation of this frequency, but as always it takes too long for things to start moving in Malta.

Its good to know that the British were given this frequency in November 1956 and therefore will have been using it for 50 years.

And in Malta? We are still waiting.

Its good to know that IARU is seeking an allocation at or near 70 MHz of at least 500 kHz on a secondary basis.

The considerations are that in countries where it is allocated, this band is used for local amateur communication on 24-hour basis, including radio control of objects.

Tropospheric scatter and sky-wave propagation (principally sporadic-E) are used for longer distances, as well as auroral propagation at the higher latitudes.

Meteor scatter has been used for Morse code and voice communications primarily during meteor showers.

Newer computer-based techniques make meteor scatter possible for distances up to 2000 km.

<sup>1</sup><http://www.arrl.org/news/stories/2006/09/15/04/?nc=1>

<sup>2</sup><http://www.arrl.org/news/stories/2006/09/26/01/?nc=1>

A Regional allocation is sought for Region 1, while there are a number of countries that have authorised the use of his frequency or part of it.

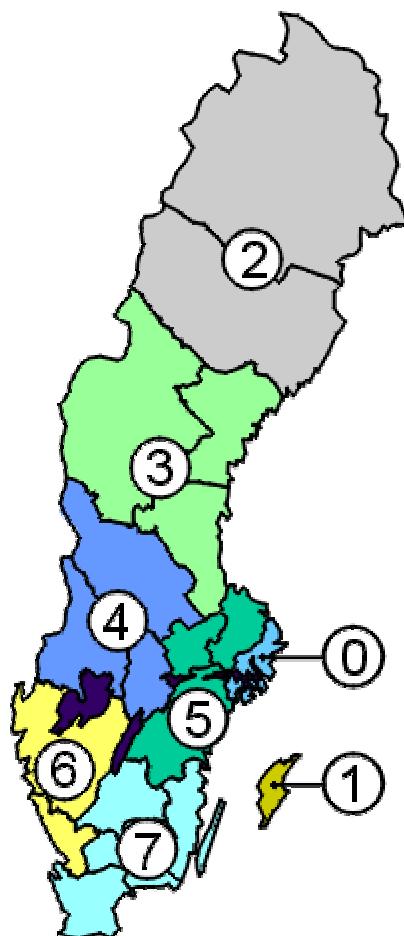
### 9H1AV/9H9MHR Lawrence

## Information

### Swedish Map

Last time we gave you a map of the USA and Italy that shows the different prefixes used in the states or divisions in the country.

Today we are giving you a map of Sweden that also shows these divisions. This map is taken from the Swedish National Radio Amateurs Organisation SSA.



This is also useful for those who go for a holiday in Sweden and take their equipment with them.

### District District Names

0	Stockholm (A)
1	Gotland (I)
2	Västerbotten (AC) Norrbotten (BD)
3	Gävleborg (X) Västernorrland (Y) Jämtland (Z)
4	Örebro (T) Värmland (S) Dalarna (W)
5	Uppsala (C) Södermanland (D) Östergötland (E) Västmanland (U)
6	Halland (N) Västra Götaland (O)
7	Jönköping (F) Kronoberg (G) Kalmar (H) Blekinge (K) Skåne (M)

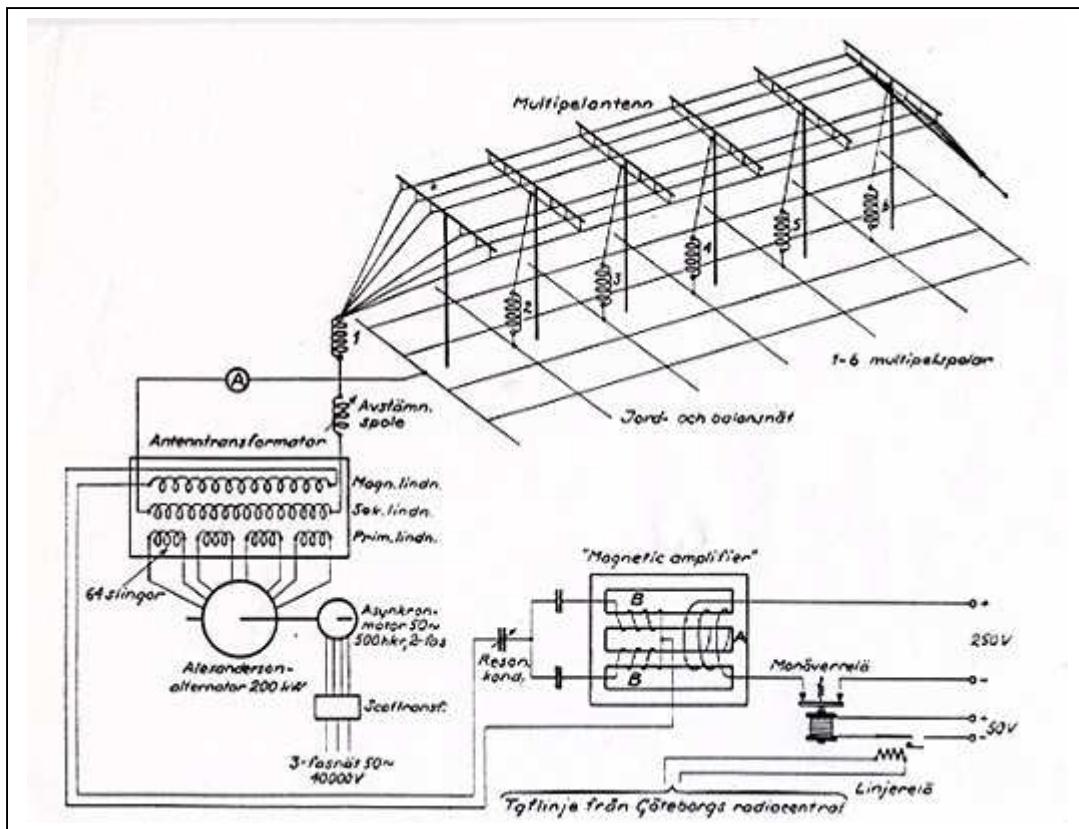
### Lawrence 9H1AV/9H9MHR

### Grimeton Unique Station

Since we are talking about Sweden, its good to also give you some details about SAQ, which is a unique station in the world that still has its frequency generated by an Alexanderson alternator.

This station was built between 1922 and 1924 and was developed by the Swedish engineer [Ernst Alexanderson](#), and is known as Grimeton Radio/SAQ and its frequency is 17.2khz. Yes, 17.2khz.

The antenna has 6 127 metre towers with a 380-metre spacing between each tower that are used as vertical radiators.



The crossarms are 46 wide and have 8 copper wires that make up antenna capacitance and feed energy to the six vertical radiating elements.

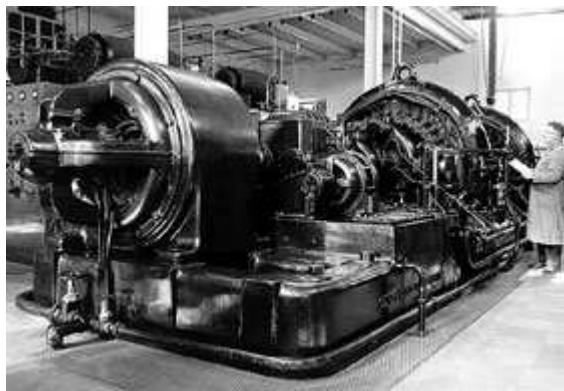
It started transmitting on 1 December 1924 on a frequency of 16.1 khz (18.6 km) that was changed to 17.2 khz (17.4 km).



A small village for 7 families of employees was also built.



Today it is no longer operated commercially but is maintained as a historical station, but it is also operated at times.



It was last operated on “Alexanderson Day” 2 July 2006 and was also heard in the USA.

If you want to try to hear it and send a report you may do so on,

Alexander - Grimeton Veteranradios  
Vänner  
Radiostationen Grimeton 72  
S-430 16 Rolfstorp  
Tel. +46 340-67 42 51  
Fax. +46 340-67 41 95  
E-mail: [info@alexander.n.se](mailto:info@alexander.n.se)  
Webpage <http://www.alexander.n.se>

This station was declared as a world heritage site.

Details, circuit and pictures from the station website and are the station copyright.

#### **Lawrence 9H1AV/9H9MHR**

### **Linux and Amateur Radio**

#### **Part two**

##### **• Year 2000 compliant**

Yeah, well, this isn't really a ham radio issue and was more hype than threat, but it should be said that Linux keeps its clock independent of the hardware clock.

Linux, as a result of being POSIX compliant, keeps its time in a 32-bit

number and figures the date by counting seconds from Jan 01, 1970.

It is said this is enough range so that date roll over won't occur until sometime in 2038.

By then, if we're still using Linux or UNIX, surely a 64 bit clock will be employed, which will probably put off the roll over problem for a couple of thousand years.

These ramblings are barely a drop in the ocean of knowledge concerning Linux and could probably be much better.

Yet, I hope I've piqued your curiosity and that you'll at least give Linux a try. You really have nothing to lose and a whole lot of fun, adventure, and learning to gain.

Linux development since 1998 has seen impressive advances with regard to the ease of which a Linux distribution can be installed on your computer.

Installation programs have become quite sophisticated compared to the scripts employed several years back. Hardware detection and configuration have improved to the point where all but the most exotic hardware stands a good chance of being properly configured for your Linux system.

What still must be dealt with is making room on your machine for Linux particularly if you have one hard drive partition and only one operating system installed.

There are several different ways this can be accomplished and you will want to consult the documentation for the distribution you want to install for its recommendations.

#### **Start with some reading**

Everybody likes to get new software and jump right in to the installation, right? I'm one of those folks who likes to install it first and read about it later, especially when there are problems. Installing

Linux requires planning especially if you want to install it along side DOS/Win on your hard drive (more on this below).

A good reference for getting familiar with Linux installation options, Bash (the command line shell) commands and syntax, and GNU/Linux file system layout is Linux Installation and Getting Started<sup>3</sup> by Matt Welsh, et. al.

The guide is also available in several formats including Post Script, HTML, Portable Document Format for Acrobat Reader, and plain text at The Linux Documentation Project Documentation<sup>4</sup> page.

The guide details installing Linux as a second operating system and covers partitioning of the hard drive and how to boot either operating system.

This manual is part of the Linux Documentation Project<sup>5</sup> (LPD) and their site is the clearing-house for Linux documentation. Unfortunately, this excellent document has become unmaintained and has apparently been superceeded by ***Running Linux*** described below.

A trip to your favorite computer bookstore should give you a choice of several good books on Linux.

Some of the best books on Linux and UNIX tools are published by O'Reilly and Associates.<sup>6</sup> ***Running Linux***<sup>7</sup> is one of their titles.

Now in its fourth edition, *Running Linux* was updated in December 2002 and is highly recommended as a good reference for learning the basics of working in a Linux based system.

When looking for a book in the bookstore, try to find one that covers version 2.4.x or later of the kernel.

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<sup>3</sup> <http://www.tldp.org/LLDP/gs/gs.html>

<sup>4</sup> <http://www.tldp.org/guides.html>

<sup>5</sup> <http://www.tldp.org/>

<sup>6</sup> <http://www.oreilly.com/>

<sup>7</sup> <http://www.oreilly.com/catalog/runux4/>

Setup and configuration has changed considerably since the 2.0.x and 2.2.x kernel series, especially with regard to the networking code, a new kernel module daemon, and a number of new and other improved features.

If you are running a later mainboard chipset and/or an AGP video card, or USB, then my suggestion is to use 2.4.21 or later for support of these devices or you may want to try one of the 2.6 series kernels (if you're brave!). It appears that the 2.6 kernel's AX.25 support is much improved over the 2.4 series. Okay, get reading!

### Picking a distribution

For a much better resource on current distributions, check out The LWN Linux Distribution List<sup>8</sup> by Linux Weekly News<sup>9</sup>.

Since 1999, when this was originally written, distributions have changed some. Since that time Caldera has all but disappeared from the scene after purchasing SCO and splitting into two companies, Caldera and Lineo. Lineo now calls itself Metrowerks and concentrates on embedded software systems and Caldera is now The SCO Group and is suing everyone in sight for whatever reason.

Corel has withdrawn completely from the Linux space. Slackware is now on its own and Walnut Creek has apparently been absorbed by Simtel<sup>10</sup>.

Debian remains as one of the last independent distributions that has survived from the early days, the other being Slackware. Red Hat has dropped their distribution into a community-supported distribution called Fedora<sup>11</sup> that plans to use community involvement to build the base of Red Hat Enterprise Linux. S.u.S.E. has recently been bought by Novell. The following remains as information.

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<sup>8</sup> <http://lwn.net/Fdistributions/>

<sup>9</sup> <http://lwn.net/>

<sup>10</sup> <http://www.simtel.net/>

<sup>11</sup> <http://fedora.redhat.com/>

Unlike MS-DOS, the various flavors of MS Windows, or Mac OS (up to and including X), the Linux operating system is available in several different flavors called distributions.

The most popular distributions are developed, packaged, and sold by commercial entities (yes this is allowed under the terms of the GNU Public License for the Free Software they include).

Here are a few of the current major distributions in alphabetical order.

**Debian GNU/Linux**<sup>12</sup> is the official **GNU Project**<sup>13</sup> operating system distribution using the Linux kernel (Debian also supports the GNU Hurd<sup>14</sup> kernel).

The development team is a volunteer group dedicated to producing a complete Linux distribution based on Free Software.

The significance of this venture is that while Debian doesn't directly sell their distribution on CD-ROM, the CD-ROM resellers often donate a portion of their proceeds to support Debian and other GNU projects.

As this distribution is the only one developed by a not for profit organization<sup>15</sup>, it is worthy of the support of those of us committed to the idea of Free Software.

I am currently working with Debian Testing, a.k.a Sarge, and am pleased with the packaging system. Debian offers [aptitude](#)<sup>16</sup> which is a full screen text utility for package management. In concert with [apt](#)<sup>17</sup> (a package retrieval utility) and [dpkg](#)<sup>18</sup>, aptitude allows keeping the system up to date with the latest security releases.

Debian is famous for its packaging system being so thorough and stable that systems can usually be upgraded to the next release with at most one reboot (to start the latest kernel if desired).

Hams will find Debian to be a good distribution to use as the AX.25 and other packages are kept current for the latest stable release.

If it's the ultimate in customization, then **Gentoo Linux**<sup>19</sup> may be to your liking.

This is a distribution that compiles the source and installs the package on your computer allowing complete control and customization of your system.

A nice article about Gentoo appeared recently on [Linux Weekly News](#)<sup>20</sup>.

**Knoppix**<sup>21</sup> and branches of it, **Gnoppix**<sup>22</sup> and **Morphix**<sup>23</sup>, are live CD-ROM images ready to boot and run. The advantage of these distributions is that no installation is required. You simply boot from the CD and you have a working Linux system.

Knoppix has been very clever with hardware detection. All three are based on Debian and may be installed to the hard drive and then updated/updated from the main Debian archive. It's a great way to try a Linux system.

**Mandrake**<sup>24</sup> has been around for a few years and received a running start by basing its first release on a recent version of Redhat. Mandrake has extended the Redhat distribution in many ways and has garnered a large and favorable user base. Unfortunately, Mandrake has undergone bankruptcy in the past year, but is still fighting the good fight.

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<sup>12</sup> <http://www.debian.org/>

<sup>13</sup> <http://www.gnu.org/>

<sup>14</sup> <http://www.gnu.org/software/hurd/hurd.html>

<sup>15</sup> <http://www.debian.org/intro/about>

<sup>16</sup> <http://packages.debian.org/testing/admin/aptitude>

<sup>17</sup> <http://packages.debian.org/testing/base/apt>

<sup>18</sup> <http://packages.debian.org/testing/base/dpkg>

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<sup>19</sup> <http://www.gentoo.org>

<sup>20</sup> <http://lwn.net/Articles/59138/>

<sup>21</sup> <http://www.knoppix.de/>

<sup>22</sup> <http://www.gnoppix.org>

<sup>23</sup> <http://morphix.sourceforge.net/>

<sup>24</sup> <http://linux-mandrake.com/>

**Redhat**<sup>25</sup> is a commercial distribution of Linux. Redhat is positioning their product toward businesses interested in using Linux in the "Enterprise Data Center".

Redhat is famous for their Redhat Package Manager which makes installing and removing software quite easy. Software packages whose names end in .rpm can be used with Redhat. Other packages can be too, you just have to do it manually.

**Slackware**<sup>26</sup> is one of the more popular distributions among the "do it yourself crowd". Slackware is popular with those of us with the hacker bend because it is more of a do-it-yourself system.

Even though the learning curve is probably steeper than that associated with most other distributions, in the long run you will gain by learning your Linux system very well and you'll be able fix those little problems that arise.

**S.u.S.E.**<sup>27</sup> is a distribution from Germany. SuSE includes all the tools and applications one would expect from a current commercial distribution. SuSE's claim to uniqueness lies in its Yast administration tool.

SuSE may also be a good choice for the ham considering Linux as traffic on the Linux-hams mailing list indicates a maintainer is active keeping the AX.25 utilities working with the latest SuSE releases.

**Note!** *S.u.S.E. was aquired by Novell in late 2003 so it remains to be seen what happens to its ham radio support.*

This is a sampling of some of the current popular distributions. It is likely that in the next few months today's star distributions could be yesterday's news.

Within recent history Mandrake went from being ideas to one of the hottest distributions and then into bankruptcy.

Mandrake is unique that it started with and became extensions of well-known current distributions.

This "running start" is not new to the world of Linux distributions as to paraphrase someone, "to reach higher one should stand on the shoulders of giants" (okay, that probably wasn't fair to the original quote).

To get an idea of the extent of current Linux distributions check out [Linux Weekly News](http://www.lwn.net/)<sup>28</sup> and follow the Distributions link.

For any help and info about Linux and Amateur Radio contact [Stanley 9H1LO](mailto:stanley@9h1lo.net)<sup>29</sup>

The full article is available on the MARL website under Articles section

## To find the Position

For someone to find his home position in terms of latitude and longitude different means can be used.

Previously one could use the sextant with which you could find the position by using the sun, moon and stars.

To use it well you had to study quite a lot and had to be good in mathematics.

Today one can also use an instrument called a satellite navigator to find his position by means of satellites.

This is easier to operate than using a sextant because you do not need mathematics.

However, both the sextant as well as the satellite navigator cost money, although the satellite navigator has dropped significantly.

Today you can enter on a webpage where you find a calculator where you input your

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<sup>25</sup> <http://www.redhat.com/>

<sup>26</sup> <http://www.slackware.com/>

<sup>27</sup> <http://www.suse.com/>

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<sup>28</sup> <http://www.lwn.net/>

<sup>29</sup> [stanley@9h1lo.net](mailto:stanley@9h1lo.net)

address and it gives you your exact position in latitude and longitude.

I've tried it and found it very reasonable.

This webpage is,  
<http://www.stevemorse.org/jcal/latlon.php>

Try it and see.

### **Lawrence 9H1AV/9H9MHR**

#### **Automatic Keyer**

We would like to tell you that Stanley, 9H1LO, made a circuit for an apparatus that can be used to automatically key the transmitter and sends the station callsign.

This means that one can leave the transmitter working automatically while he is doing other experiments or checking how his transmitter sounds like.

This uses an integrated circuit called a PIC that Stanley offered to programme with the callsign of those interested. The price is Lm6 and Stanley offers Lm1 for MARL for every integrated circuit that he programs.

For those who would like to program the PIC themselves, Stanley is ready to provide them with a hex program with their callsign free of charge.

If there is enough demand, Stanley is ready to offer all components including the printed circuit so that one would have no difficulty in making it.

This can be made as a MARL project where one may build it at the club or if he wants he can build it at home.

Because of difficulties in putting the printed circuit and its circuit on this magazine, these may be found on Stanley's webpage. Stanley's webpage is <http://www.9h1lo.net>

It is true that one can use a computer to do the same work, but with this apparatus you will not be tying down your computer with this work.

Today when everyone is buying everything ready made, we should take this opportunity so that we will have built some part of our apparatus ourselves.

### **Scouts Jamboree**

The scouts jamboree is an activity program that scouts hold every year where they learn to communicate by radio and now also by internet.

The jamboree was the idea of Les Mitchell, G3BHK, who drafted its regulations while the jamboree was held for the first time in 1958.

From that time it has always increased its popularity, and today we find that about half a million scouts in more than 100 countries participate in it.

Around 10,000 radio amateurs take part in this activity by providing their station communication apparatus.

This year, the jamboree will be held from Saturday 21 October 0001 to Sunday 22 October 2359 **local time**.

Due to the different world time zones, this activity starts on Friday 20 October and continues up to Monday 23 October.

Like other instances, MARL is going to participate in this activity by installing a number of stations in f'Bahar iċ-Ċaghak where the scouts will be camping.

This activity is also being mentioned in the MARL activity box on the following page.

We therefore encourage you to participate and inform Ivan or George so that they will know about you.

If you want to you can communicate with them from your home. Be sure to use the proper procedure and be an example to the scouts who may become radio amateurs in the future.

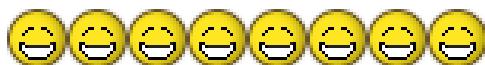
There are a number of frequencies that are going to be used in Malta which will be on HF, VHF and UHF and also echolink.

Listen and our friends that will be operating in the jamboree will be glad to talk to you.

### MARL Notices

**Wine and Pizza on Friday 20<sup>th</sup> October 2006 at MARL centre from 7.00 in the evening.**

Come and bring your wife and family or friends and enjoy yourselves.

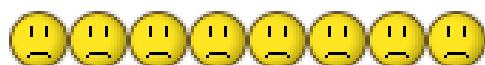


Price Lm2 per person.

Whoever wants to come should inform George



or any other Committee member up to Sunday 15<sup>th</sup> October so as not to be disappointed.



If you copy the picture on microsoft front page you will see George working

### Wisdom

**Its better to be free and drive pigs than a slave and drive horses.**

**This is said to have been stated by one of the Cato's, Roman wise men.**

### MARL Activities

**From Saturday 21 to Sunday 22 October MARL is participating in the scouts jamboree.**

During the jamboree, scouts communicate with other scouts around the world by radio and internet.

This is going to take place from Bahar iċ-Ċaghak and starts on Saturday early morning and continues up to Sunday afternoon.

Food is being provided by the scouts.

Whoever wants to take part in this activity as well as for details should contact Ivan or George forthwith.

**Do you have difficulty  
To learn the Morse code?**



*"We've discovered a new high-speed way to learn the code! This shot will make you a 25-word-per-minute man immediately!"*

Found on the internet

We've discovered a sure high-speed way to learn the code! This shot will make you a 25-word-per-minute man immediately.